

OKOR KOUTA, H.

[illegible]

SKORKOVSKIY, I.I., uchitel' fiziki (g. Sukhumi).

Solar water heater. Politekh. obuch. no.9:71-73 S '58.
(Solar water heaters) (MIRA 11:10)

SKORKOVSKY, Bohuslav

Rhodanin test for detecting enterococci. Cesk. epidem. mikrob. imun.

8 no.4:251-254 July 59

(GASTROINTESTINAL SYSTEM, microbiol.)

(STREPTOCOCCUS)

SKOPCHENKA, F.

"Possibilities of enriching the fish fauna of our Republic by the acquisition of economically important fishes from the Soviet Union and other countries.", p. 47, (SPORNÍK, Vol. 20 #1/2, Feb. 1953, Czechoslovakia)

SO: Monthly List of East European Accessions, Vol. 2 #3, Library of Congress, August 1953, Uncl.

BRANK "BRY", J.

Electric vehicles of the Lenin Works at Plzen. p. 275.
(ELEKTROTECHNICKY OBRAT, vol. 44, no. 5, May 1957, Praha)

53: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 11,
Nov. 1955, Uncl.

SKORKOVSKIY, Ya. [Skorkovsky, J.], inzhener; RZHERZHIKHA, K. [Rerikha, K.]
inzhener; KLESHCHINOV, M.A., gornyy inzhener, [translator].

Czechoslovak 150-ton electric locomotives for strip mining. Gor. zhur.
no. 5:17-22 My '57. (MLRA 10:6)

1. Zavod im. V.I. Lenina, (g. Pl'zen').
(Czechoslovakia--Electric locomotives) (Mine railroads)

SKORKOVSKY, J.

SKORKOVSKY, J.

The role of the Czechoslovak chemical industry in the setting of international economic relations.

P. 1 (Chemický Průmysl) Vol. 7, No. 1, Jan. 1957, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. - VOL. 7, NO. 1, JAN. 1958

SKORKOVSKIY, J.

TECNOLOGY

PERIODICAL: KHIMICHESKIY PRORYSL, VOL. 8, no. 11, 1958

Skorko sky, J. Future outlook of the Soviet chemical industry. p. 561.

Monthly List of East European Accessions (EEAF), LC, Vol. 8, no. 5,
May 1959, Unclass.

SKORKOVSKY, J.; ~~PERICHIA, P.~~

TECHNOLOGY

Periodical CZECHOSLOVAK HEAVY INDUSTRY. No. 12, 1958.

SKORKOVSKY, J.; ~~PERICHIA, P.~~ Skoda electric-clearing locomotives. p. 21.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

SKORKOVSKY, J.

Participation of chemical industries in world trade. p. 1

CHEMICKE PRUMYSI. (Ministeratvo chemickeho prumyslu) Praha, Czechoslovakia,
Vol. 9, no. 1, Jan. 1959

Monthly List of East European Accessions, (EEAI) LC, Vol. 8, No. 7, July 1959
Uncl.

SKORKOVSKY, J.

Chemical industries in Poland. p. 91

CHEMICKE PRUMYSI. (Ministeratvo chemickeho prumyslu) Praha, Czechoslovakia
Vol. 9, No. 2, Feb. 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 7, July 1959
Uncl.

SKORKOVSKY, J.

"Chemical industries in Rumania."

CHAMICKY PRUMYSL, Praha, Czechoslovakia, Vol. 9, No. 1, April 1959.

Monthly List of East European Accessions (MEAL), LC, Vol. 8, No. 9, September 1959.

Unclassified.

SKORKOVSKY, Jaroslav

Help of the Soviet Union to underdeveloped countries in building up
the chemical industry. Chem prum 11 no.11:563-566 N '61.

SKORKOVSKY, Jaroslav

Contradictions and conflicts in the chemical industries of capitalist countries. Chem prum 12 no.1:36-38 Ja '62.

SKORKOVSKY, Jaroslav

Development of chemical industries in German Federal
Republic. Chem prum 12 no.5:259-261 My '62.

SKORKOVSKY, Jaroslav

Africa, a continent of immense natural riches. Chem prum 12
no.7:372-374 JI '62.

SKORKOVSKY, Jaroslav

Chemical industry in Yugoslavia. Chem prum 12 no.10:563-566
0 '62.

SKORKOVSKY, Jaroslav

Present situation and outlook of the Soviet chemical industry. Chem
prum 12 no.11:587-589 N '62.

SKORKOVSKY, Jaroslav; VACEK, Ales

Chemical industry in Canada. Chem prum 13 no.3:148-150 Mr '63.

SHORKOVSKIY, Jaroslav

Chemical industry in the United States of America. Chem prom
13 no.5:259-262 My '63.

SKORKOVSKY, Jaroslav

Economy of the chemical industry in the United States. Chem prum
13 no.6:315-318 Je '63.

SKORKOVSKY, Jaroslav

Chemistry has priority in the Soviet Union. (hem prum 13
no.11:596-597 1963.

SKORKOVSKY, Jaroslav

Difficulties of the European Economic Community from the
viewpoint of the chemical industry. Chem prum 13 no. 12:
651-653 D '63.

SKORKOVSKÝ, Jaroslav

Chemical production in western Europe. Chem prum 14 no.1:
52-55 Ja'64.

SKORKOVSKY, Jaroslav

Italian chemical industry. Chem prum 14 no.4:220-222 Ap '64.

SKORKOVSKY, Jaroslav

Chemical industry in the German Democratic Republic. Chem prum
14 no.8:444-445

SKORKOVSKY, Jaroslav

Further development in chemistry in the U.S.S.R. Chem prum 14 no.11:
615-616 W '64.

SKORKOVSKY, Jaroslav

Chemical industry in Japan. Chem pram 15 no 3:184-186 Mr '65.

SKORKOVSKY, Jaroslav

Chemical industry in Poland. Chem prum 15 no.2:124-126 F '65.

SKORPACHSKY, [unclear]

Chemical industry in India. Chem prod no.4:252-254 Ap '65.

SKORKOWSKI, E.

Subspecies as a real form in nature. p. 559.
(KOSMOS BIOLOGIA. Vol. 5, no. 5, 1956, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec. 1957.
Uncl.

POLAND/Farm Animals - Horses.

Q-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30909

Author : Skorkowski Edward

Inst : -

Title : Present Problems in the Raising of Arab Horses in Poland
(Aktual'nyye voprosy razvedeniya arabskikh loshadey v
Pol'she).

Orig Pub : Med. weteryn., 1957, 13, No 4, 218-220

Abstract : The article deals with two directions in the breeding
of Arab horses, with the best female strains of this
breed in Poland, and with requirements as to training
and raising the young .

Card 1/1

- 13 -

SKORKOWSKI, E.

"The role of horses in prehistoric and early historic times"

p. 78 (Czlowiek W Czasie I Przestrzeni, Journal on Anthropology with emphasis on biological aspects issued by the Polish Anthropological Society, Vol. 1, no. 2, 1958, Warsaw, Poland)

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 1, Jan. 59.

SKORKOWSKI, E.

GEOGRAPHY & GEOLOGY

PERIODICAL: CZLOWIEK W CZASIE I PRZESTRZENI. Vol 4, no. 4, 1958

SKORKOWSKI, E. Horses in ancient Egypt. p. 207

Monthly List of East European Acquisitions (EEAI) LC. Vol. 6, no. 5,
May 1959, Unclass.

SKORKOWSKI, E.

The threefold character of changes in nature. p.639.

KOSMOS. SERIA A: BIOLOGIA. Warszawa, Poland. Vol. 7, no. 6, 1958.

Monthly List of East European Accessions Index (SEAI), LC. Vol. 8, No. 9, September 1959
Uncl.

SKORKOWSKI, Edward

Genetic verification of the subspecies of the horse. Kosmos
biol 11 no.5:527-532 '62.

SKORKOWSKI, Edward

"Birth of a zebroid from an ass and a Grants' zebra" by
H. Petzsch. Reviewed by Edward Skorkowski. Przegl
zoolog 7 no. 1:98 '63.

MIKULSKI, Edward, Docent, Dr., (Krakow) [Affiliation not given]

Principles of Environmental and Population Research Transmitted for Practice."

Krakow-Lublin, Medycyna Weterynaryjna, Vol 19, No 8, Aug 63, pp 873-874

Abstract: Lecture delivered before a meeting on "Science in the Service of Agriculture," of the Krakow Branch of PAN [Polska Akademia Nauk, Polish Academy of Sciences] and suggesting the utilization of genetics for breeding first a homogeneous "subrace" of horses in accordance with eight (8) dimensions proposed by the author, before attempting to breed the optimum "races" for Polish environmental conditions on the line of E. c. ewarti for a light type of horse and E. c. abeli for a heavy-type horse. Editors note that the views expressed are those of the author, and they are printing it for a possible base of discussion. There are no references.

1/1

FEDOROVA, M.N.; SKORLUPKIN, S.F., red.; CHANTSUKVA, G.M., tekhn.red.

[Textbooks and manuals for mining schools] Uchebniki i uchebnye posobiia dlia gornykh uchebnykh zavedenii. Moskva, Ugletekhizdat, 1957. 44 p. (MIRA 11:5)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye knizhnoy
torgovli.

(Bibliography--Coal mines and mining)

SKORMAN, L. V.

57/49T44

USSR/Fuel
Coal
Iron Ore

Nov 48

"Coal Deposits of the Northern Caucasus as a Local
Fuel Base," M. M. Kapganov, Stalin Prize Laureate,
Cand Geol and Mineral Sci, and L. V. Skorman,
Engr, 3 pp

"Za Ekon Top" No 11

Use of large resources of North Caucasian coal
of uniform quality would decrease necessity for
imports and make it possible to create a fuel
base which would stimulate industry by increasing
use of iron ore in the area.

57/49T44

SKORMIN, A. (Tula); KLADNITSKIY, R. (Tula)

Six-terminal tube adapter. Radio no. 5:44 My '55.

(Electron tubes)

(MLRA 8:6)

AUTHOR: Kladnitskiy, R. and Skormin, A., Tula

107-9-50/53

TITLE: Manufacturing of Coil Cores (Izgotovleniye serdechnikov dlya katushek)

PERIODICAL: Radio, 1957, # 9, p 63 (USSR)

ABSTRACT: This article describes how defective cores and broken parts of carbonyl materials are powdered and utilized for manufacturing new cores. Figure 1 shows a pressing-device utilized for this purpose.

The article contains 1 figure and 1 Russian reference.

AVAILABLE: Library of Congress

Card 1/1

SKORMIN, L. A.

112-3-6139

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957,
Nr 3, p. 157 (USSR)

AUTHORS: Skormin, A. L., Komarova, L. A.

TITLE: Potentiometer with a Device for Correcting Errors
of Scale Readings (Potentsiometr s ustroystvom dlya
korrektirovki pogreshnosti pokazaniy otschetnoy shkaly)

PERIODICAL: Obmen opytom. M-vo radiotekhn. prom-sti SSSR, 1955,
Nr 8-9, pp. 64-65

ABSTRACT: The construction of a simple device for a potentiometer
with a scale is briefly described; the potentiometer is
used in measuring instruments of the YM-1 and YM-2 type.
The device permits rapid and accurate correction of the
scale indication without the necessity of rewinding the
potentiometer or of manufacturing and calibrating a new
scale. It consists of a thin spring disc, which is
attached to the potentiometer frame by means of eight
adjusting screws, and of a swinging lever, which is
rigidly attached to a plate mounted on the potentiome-
ter pin. The lever slides along the spring disc. If all
the screws are set for the same adjustment, the disc is

Card 1/2

flat. When the screws are not set at the same adjustment, the
disc is not flat. As the potentiometer shaft is rotated, the

SOV/137-58-11-21880

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 11, p 6 (USSR)

AUTHOR: Skormina, R. A.

TITLE: The Flotation Properties of Ether (Wormwood) Oils Obtained From
Local Raw Materials [Flotatsionnyye svoystva efirnykh (polynnykh)
masel iz mestnogo syr'ya]

PERIODICAL: Izv. AN Kaz SSR. Ser. gorn. dela, metallurgii, str-va i
stroymaterialov, 1957, Nr 5(16), pp 15-29

ABSTRACT: Bibliographic entry

Card 1/1

SKORNIHA, R.A., Cand Tech ^{Sci}~~Inst~~ --(diss) "Study of foam-forming properties
of esters for the purpose of ^{restoring}~~prospecting~~ for reagents--frothing agents
from local ~~crude~~ raw material." Alma-Ata, 1958. 16 pp with graphs
(Acad Sci Kazakh SSR. Inst of Metallurgy and Concentration), 100 copies
(RI, 30-58, 123)

SOKOLOV, M.A.; SKORMINA, R.A.

Obtaining an alumina concentrate from Boshchekul' ores. Izv.
AN Kazakh.SSR.Ser.met., obog.1 ogneup. no.2:3-6 '58.

(Boshchekul'---Nonferrous metals) (MIRA 16:2)
(Aluminum oxide)

SOKOLOV, M.A.; SKORMINA, R.A.; KORABLINA, M.P.; BAYSHULAKOV, A.A.

Prospects for the complete treatment of poor molybdenum-tungsten ores
of central Kazakhstan. Trudy Inst. met. i obogashch. AN Kazakh. SSR
2:3-6 '60. (MIRA 13:10)

(Kazakhstan--Nonferrous metals)
(Ore dressing)

SKORMINA, R.A.; BAYSHULAKOV, A.A.; SOKOLOV, M.A.

Collective flotation of complex metal ores. Trudy Inst. met.
1 obogashch. AN Kazakh. SSR 4:3-7 '62. (MIRA 15:8)
(Flotation)

SKORMINA, R.A.

Obtaining a stable concentrated emulsion from lubricating oils.
Trudy Inst. met. i obog. AN Kazakh. SSR 6:11-13 '63.
(MIRA 16:10)

ACC NR: AP6G21814

(A)

SOURCE CODE: UR/0413/66/000/012/0094/0094

INVENTOR: Vasil'chenko, G. S.; Chernyavskiy, L. L.; Romanov, V. S.; Skoromnaya, L. I.; Mart'yanov, N. S.

ORG: None

TITLE: An installation for strength tests of the working wheels in high-speed turbines. Class 42, No. 182913 [announced by the Central Scientific Research Institute of Technology and Machine Building (Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 94.

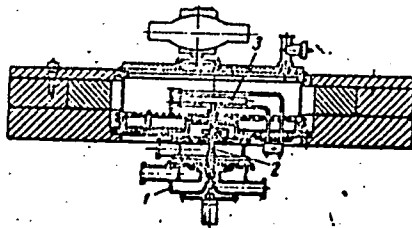
TOPIC TAGS: turbine rotor, test facility

ABSTRACT: This Author's Certificate introduces an installation for strength tests of the working wheels in high-speed turbines. The unit contains a turbine drive, vacuum chamber with cylindrical wall surrounded by an annular jacket, and a device for induction heating of the components being tested. A drive shaft passes through the cylindrical wall of the vacuum chamber for holding the part to be tested. The rotational velocity of the part being tested is increased by making the turbine drive in the form of a centripetal-flow air turbine with the component to be checked mounted on its drive shaft.

Card 1/2

UDC: 620.172.253:620.1.05

ACC NR: AP6021814



1—air turbine; 2—drive
shaft; 3—part being tested

SUB CODE: 13/ SUBM DATE: 19Jul65

Card 2/2

SKORNETSKIY, V.

Sanitary working conditions for automobile drivers. Avt.
transp. 42 no. 5:6-7 My '64. (MIRA 17:5)

SOV/24-59-3-9/33

AUTHORS: Rozenberg, L. A., Skorneva, M. I. (Moscow)

TITLE: Filtration of Sequences of Random Quantities

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1959, Nr 3, pp 55-62 (USSR)

ABSTRACT: The paper gives a condensed presentation of solutions to two problems, one the problem of an ordinary (non-predicting) linear filter, which is disposed of cursorily, and the other a problem due to Zadeh and Ragazzini, in which the filter is coupled to a computer to predict the values of a nonrandom component (useful signal) present in noise. [The work appears to be a summary and generalization of three papers presented at the IRE Conference on Information Theory in June 1957 (papers by Kent, Zadeh and Kulikowski)]. The paper contains 3 figures and 3 references, of which 2 are English and 1 is Soviet.

SUBMITTED: July 17, 1958.

Card 1/1

SKORNICKA, M.

"Typified feeding transforms and smoothing chokes" by
A. Var'cek. Reviewed by M. Skornicka. Elektrotechnik 19
no.1:28 Ja'64.

SMIRNOV, S.A.; SKORNYAKOV, A.I.; TITSKAYA, B.F., redaktor; POLOSINA, A.S.,
tekhnicheskiiy redaktor

[Gas pipe fitter in the petroleum and gas industry] Slesar' po
gazovomu delu na neftianyykh i gazovykh promyslakh. Moskva, Gos.
nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1952.
115 p. [Microfilm] (MIRA 9:3)
(Gas, Natural--Equipment and supplies)

GORELIK, Z.Kh.; SKORNYAKOV, A.I.

Bibliography. Gaz. prom. 7 no.9:57 '62.

(MIRA 17:8)

00165111

"Investigation of Methods of Sinkin, Walls by Drilling Under Conditions Prevalent in the Sokol Mine." Cand Tech Sci, Moscow Inst of Nonferrous Metals and Gold Invent M. I. Kalinin, Min Higher Education USSR, Moscow, 1955. (KL, No 13, Mar 55)

SC: Sum. No 670, 23 Sep 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SKORNYAKOV, Aleksandr L'yovich; SOSEDOV, O.O., gornyy inzhener, retsenzent;
VOZDVIZHESKIY, B.I., professor doktor tekhnicheskikh nauk, retsenzent,
redaktor; YEZDOKOVA, M.L., redaktor izdatel'stva; BERLOV, A.P.,
tekhnicheskiiy redaktor

[Using percussion drills for bore holes] Prokhodka vzryvnykh skvazhin
pnevmoudarnnikami. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi
i tsvetnoi metallurgii, 1957. 109 p. (MIRA 10:7)
(Boring machinery)

Skorniyakov A.L.
AUTHOR: Zelenskiy, N.M. 127-12-27/28
TITLE: "Drilling of Blast Holes by Pneumatic Drills" by A.L. Skornya-
kov (A.L. Skorniyakov, Prokhodka vzryvnykh skvazhin pnevmou-
darnikami)
PERIODICAL: Gornyy Zhurnal, 1957, No 12, pp 71-72 (USSR)
ABSTRACT: This note is a review of the book published by the Metal-
lurgizdat in 1957. The book describes succinctly the develop-
ment of drilling deep blast holes in the mining industry. The
reviewer points out some inaccuracies and unclear places in the
book under review, but concludes that the book, in spite of
some essential drawbacks, contains a great amount of factual
material and can be useful for the people working in the mining
industry.
ASSOCIATION: Dnepropetrovsk Mining Institute (Dnepropetrovskiy gornyy in-
stitut)
AVAILABLE: Library of Congress
Card 1/1

PHASE I BOOK EXPLOTTATION SOV/5341

Vozdvizhenskiy, Boris Ivanovich, and Aleksandr L'vovich Skornyakov

Bureniye vzryvnykh skvazhin (Blast-Hole Drilling) Moscow, Gosgortekhzdat, 1960.
434 p. Errata slip inserted. 4,000 copies printed.

Resp. Ed.: A.D. Yakhontov; Ed. of Publishing House: G.M. Yerokhin;
Tech. Ed.: V.V. Galanova.

PURPOSE: This book is intended for technical personnel of the mining industry and of its planning and design organizations. It may also be of use to students at mining and geological-survey institutes and tekhnikums.

COVERAGE: Modern methods of drilling blast holes are described and results of drilling experience gained in the Soviet Union and in some Non-Soviet countries are summarized. Included are: comparative appraisal of various drilling methods, the engineering and economic indices characterizing these methods and descriptions of drilling machines, tools, and accessories. Chapters I, VI, and VII were written by B.I. Vozdvizhenskiy; Chapters II, III, IV, V, VIII, and XI, by A. L. Skornyakov, Chapter IX, by D.N. Bashkatov, and Chapter X, by B.I. Vozdvizhenskiy and A.L. Skornyakov. The authors thank M.I. Gal'perin, Doctor

Card-1/7--

Blast-Hole Drilling

SOV/5341

of Technical Sciences, whose materials were used in the writing of Chapters I and X. There are 129 references, all Soviet.

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| General information | 59 |
| 1. Designs of percussion drills [with separate striking mechanism] | 60 |

Card 2/7

BUGAYEV, I. I., prof., doctor (chem. nauk); LIPYLOV, A. A., dotsent, kand.
tekh. nauk

Rapid shaft sinking at the "Gigant" (Chubokhin) mine. Sbor. nauch.
trud. NGRI no. 19893-36161 (MIRA 17:8)

1. Otvetstvennyy redaktor zhurnala "Sbornik nauchnykh trudov
Krivorozhskogo gornorudnogo instituta" (for Luzanovskiy).

SKORNYAKOV, A.N.

✓ 277. LOUD SPEAKER COMMUNICATION BETWEEN COKE MACHINES.
Blavgorodskii, N.V. and Skornikov, A.N. (Koks i Khim. (Coke & Chem., Moscow), 3

Otdel, Tekh. Nauk (Bull. Acad. Sci. U.S.S.R., Sect. Tech. Sci.), July 1956,
125-128). The paper by B.T. Bondarenko (Fuel Abstr., 1956, vol. 20, 1567) on
the heating of a block of coal by a current passing through a conducting channel
is criticized. *Fuel*

SKORNYAKOV, A.N.; ZUBAREV, G.D.

Operation of coke oven equipment. Koks i khim.no.5:31-33 '56.
(Coke industry--Equipment and supplies) (MLRA 9:10)

SLAVGORODSKIY, M.V.; SKORNYAKOV, A.N.

Loudspeaker communication between coke machines. Koks i khim. no.5:
34-35 '56. (MIRA 9:10)
(Loudspeakers) (Coke-industry--Equipment and supplies)

SKORNYAKOV, A.N.

Position indicator for the car of a rolling transporter in a large
lump coke bunker. Koks i khim.no.5:61-62 '56. (MLRA 9:10)
(Coal-handling machinery)

SKORMYAKOV, A.N.; SKORMYAKOV, E.S.

Machinery for loading coke into cars. Koks i khim.
no.7:36-38 '60. (MIRA 13:7)

1. Novo-Lipetskiy metallurgicheskiy zavod (for Skornyakov A.).
2. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Skornyakov, E.).
(Coke industry--Equipment and supplies)
(Loading and unloading)

8(6)

SOV/25-59-2-13/48

AUTHOR: Skornyakov A.V., Manager of the Exhibition
of the Polytechnical Museum

TITLE: The Soviet Exhibition in Prague (Sovetskaya
vystavka v Prage)

PERIODICAL: Nauka i zhizn', 1959, Nr 2, p 36 (USSR)

ABSTRACT: This article briefly tells of the Soviet ex-
hibition "Hydroelectric Engineering in the
USSR" in the Prague National Technical Museum
organized by the Politekhnicheskiy muzey Vse-
soyuznogo obshchestva po rasprostraneniyu
politicheskikh i nauchnykh znaniy (Polytech-
nical Museum of the All-Union Society for the
Propagation of Political and Scientific Know-
ledge). The exhibition shows working models,
diagrams, etc. illustrating Soviet progress in
hydroelectric engineering. Some data are of
interest: the potential energy of Soviet rivers
is 420 million kilowatt, on the basis of which

Card 1/2

The Soviet Exhibition in Prague

SKORNYAKOV, A.V.

Questions on the design of electric interlocking units. Avtom.
telem. i sviaz' 3 no.12:17-20 D '59. (MIRA 13:4)

1. Glavnyy spetsialist Khargiprotransa.
(Railroads--Signaling--Interlocking systems)
(Railroads--Electronic equipment)

Skornyakov, B.A.
SKORNYAKOV, B.A., inzh.

Investigation of systems of roller processing for rolling stock
axles. Vest. TSNII MPS 16 no.7:26-28 0 '57. (MLRA 10:11)
(Car axles)

SKORNYAKOV, A.N.; SKORNYAKOV, E.S.

Machinery for loading coke into cars. Koks i khim.
no.7:36-38 '60. (MIRA 13:7)

1. Novo-Lipetskiy metallurgicheskiy zavod (for Skornyakov A.).
2. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Skornyakov, E.).
(Coke industry--Equipment and supplies)
(Loading and unloading)

| 1ST AND 2ND ORDERS | | | | | | | | | | | | | | | | | | | | | | | | | | 3RD AND 4TH ORDERS | | | | | | | | | | | | | | | | | | | | | | | | | |
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| PROCESSES AND PROPERTIES INDEX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>Reflecting power of some silver alloys in the near ultra-violet. M. M. Noshkov and G. P. Shornyshev. <i>Doklady Akad. Nauk S.S.R.</i> 64, 809-11(1949).—In alloys of Ag with a few at. % Sb, Sn, or Pd, subjected to prolonged normalization in the solid state close to the m. temp., rolled, ground, and sealed in vacuo 2 hrs. at 250°, and then carefully polished with Cr₂O₃ under isoöctane, the min. of reflectivity which, in pure Ag, lies at about 320 mμ, is shifted to shorter wave lengths. The shift is almost proportional to the amt. of the alloying element, and, at equal concn. (in at. %) increases in the order Pd, Sn, Sb, being very close for the latter 2 elements; with 4 at. % Sb, Sn, and Pd, the min. lies at about 302, 305, and 312 mμ, resp. The elec. resistivity of these alloys increases markedly with increasing amts. of Sb or Sn, but only very slightly with Pd. It confirms Krcaling's point of view that, in the visible and ultraviolet, collisions of electrons with the metal lattice are not essential for optical transitions. Broadly speaking, the results indicate changes of the d- and filtering of electronic states, brought about by the introduction of extraneous elements into the lattice.</p> <p style="text-align: right;">N. Thon</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inst-Phys. Metals, Ural Univ. AS USSR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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CA

Spectral distribution of reflected light in silver alloys.
M. M. Noskov and G. P. Skorniyakov *Izvest. Akad.
Nauk S.S.S.R., Ser. Fiz.* 14, 757-61(1950); cf. C.A. 43,
4919a.---Ag was alloyed with Al, Cu, Au, Zn, Cd, Ti, Sn,
Sb, Pd, Pb, Bi; in most cases the amt. of addnl. metal
was 1, 2.5, or 5%, except where the soly. was smaller

than 5%. Min. of reflection in the ultraviolet ($\sim 3200 \text{ \AA}$)
are tabulated as well as other data including measurements
of the Hall const. It is shown that the min. shifts to smaller
wave lengths and the depth of the well decreases with the
addn. and amt. of alloying metals. This effect is attributed
to a local distortion of the electron band system in Ag.

S. Pakswar

BRONNIKOV, V. T.

Dissertation: "Luminosity Distribution in the Direct-Current Arc Space between Metallic Electrodes." Cand Phys-Math Sci, Ural State U, Sverdlovsk, 1953.
Referativnyy Zhurnal--Fizika, Moscow, May 54.

DO: 51.24, 26 Nov 1954

USSR/Physics - Metallurgy

Card 1/1 Pub. 43 - 21/97

Authors : Noskov, M. M., and Skorniyakov, G. P.

Title : About certain characteristics of an arc discharge cloud

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, page 257, Mar-Apr 1954

Abstract : The effect of a falso electrode on the relative line intensity of a basic arc electrode material and upon the sensitivity and accuracy of a spectral analysis was investigated. The intensity distribution of individual lines was investigated along an arc cloud in the case of uniform Cu electrodes and in cases where one of the electrodes was made of C, Al, Mg, Zn, Fe, Mo, Ni and W. It was found that in the case where the arc burns between Cu-electrodes there is a distinctly expressed near-electrode intensification of the Cu line and a less distinctly expressed intensification of other lines. In the case where one of the above mentioned elements serves as an anode, the emission of Cu (cathode) is concentrated mostly at the Cu electrode which also serves as a cathode. No Cu emission was seen near the anode.

Institution : Academy of Sciences USSR, Ural Branch, Physics of Metals Institute

Submitted :

SKORNYAKOV; G. P.

✓ 3507. Vaporisation of metal electrodes in an arc of constant current. G. P. Skornyakov. *Izv. Akad. Nauk SSSR, Ser. Fiz.*, 1963, 18 (1), 57-58; *Ref. Zhur., Khim.*, 1958, Abstr. No. 10,609.—The effect of polarity and electrode materials on vaporisation of metal electrodes in an arc of constant current is studied. The most apparent link is that between vaporisation and polarity. Two groups of elements were distinguished: (i) Cu, Mg, Zn, Al, Si, Sn, Pb, C, Mo and W and (ii) Fe, Co, Ni, Mn and Cr. Intense vaporisation at the anode was characteristic of group (i) and a similar or greater vaporisation at the cathode characteristic of (ii). The formation of negative ions of Fe, Co and Ni in the arc discharge is discussed.

R. Lord

SKORNYAKOV, G. P.

21 3

"The Asymmetry of Voltage in a D.C. Electric Arc. G. P. Skornyakov (Izvest. Akad. Nauk S.S.S.R., 1956, [Tekhn.], (6), 140-143).—[In Russian]. Ionized anode-vapour predominates in the arc space in all parts except the cathode region. The elect. conditions in the arc are thus determined to a large degree by the anode vapour. (For Fe, Co, Ni the vaporization with negative polarity is greater than with positive. Therefore their share in the current transfer is greater in the first case.) Elements with high ionization-potential give high voltages in the arc (Si, Pd). Zn and W do not fall into this category because of the easy fusion and high volatility of their oxides. The powerful flow of vapour from easily-melted materials increases the role of the purely aerodynamic transfer of charge. The experiments show that variations in arc voltage arise to a large extent from changes in the vapour compn. 9 ref.—N. E. B.

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SKORNYAKOV, G. P.

1781. Spectrographic determination of indium in iron-base samples. G. A. Yarosh, G. P. Skornovakov and R. A. Efremova (Inst. of Metal Physics, Ural Filial, Acad. Sci., U.S.S.R.). *Zavod. Lab.*, 1958, 22 (11), 1314-1315. — The sample (20 to 25 mg) is mixed with 10 to 15 mg of NaCl (to suppress the cyanogen bands) and placed in the hollow of a carbon electrode. The spectrum is excited by means of a 5-amp. d.c. arc between the sample and an upper carbon electrode, and the line in 4511.32 Å is compared with the background. All indium lines in the u.v. are interfered with by Fe. Concn. of In

of 0.0025 to 0.025% in the presence of high concn. of Fe can be determined with an error of $\pm 10\%$.

G. S. SMITH

AM RG
MT

SKORNYAKOV, G. P.

51-4-14/26

AUTHORS: Skornyakov, G. P. and Sasovskaya, I. I.

TITLE: Effect of Contact Surface on the Optical Properties of Silver in the Reflection-Minimum Region. (Vliyaniye kontakta poverkhnosti na opticheskiye svoystva serebra v oblasti minimuma otrazheniya.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr.4, pp.380-382. (USSR)

ABSTRACT: The sharp reflection minimum of silver at 3200 Å is displaced by polishing (Ref.2) and increase of temperature (Refs. 3, 4) towards long-wavelengths, and on lowering of temperature (Refs. 1, 5, 6) and in the presence of impurities (Refs. 7, 8) displacement towards short wavelengths is observed, with a simultaneous change in the magnitude of reflection. The optical properties of silver in this region of wavelengths are of great interest because they are related to the forbidden transitions from the band 5s to the band 5p. The present authors found that the reflection minimum of silver is also sensitive

Card 1/4

SOV/137-58-7-14554

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 87 (USSR)

AUTHORS: Skorniyakov, G.P., Motova, Z.A., Kochnev, M.I.

TITLE: Luminosity of Converter Flame During the Fining of Blister Copper (O svechenii plameni konvertera v period dovodki chernovoy medi)

PERIODICAL: Byul. tsvetn. metallurgii. 1957, Nr 24, pp 20-22

ABSTRACT: A photometric study was conducted of the converter flame (by spectroscopy connected to a film camera), and optical monitoring by photoelectric pyrometer with recording potentiometer was performed. In both cases, intensity of emission was found to increase during the fining period, this being connected with an increase in the Cu contents of the melt. Maximum emission of light was attained during the final 5 to 8 min. The subsequent sharp drop is apparently to be explained by the onset of Cu oxidation.

1. Flames--Spectrographic analysis 2. Photometry--Applications 3. Photoelectric pyrometers--Applications 4. Copper --Properties L.P.

Card 1/1

24(7)

PHASE I BOOK EXPLOITATION

L'vov. Universitet

SOV/1700

Materialy I Vsesoyunogo soveshchaniya po spektroskopii, 1956.
t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union
Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy)
Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its
Naukovedcheskiy sbornik, vyp. 4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po
spektroskopii.

Editorial Board: O.S. Landsberg, Academiian, (Resp. Ed.);
E.G. Reppert, Doctor of Physical and Mathematical Sciences;
V.A. Babitskiy, Doctor of Physical and Mathematical Sciences;
V.G. Koritskiy, Candidate of Technical Sciences; S.M. Ryskiy,
Candidate of Physical and Mathematical Sciences; L.K. Klimovskaya,
(Deceased), Doctor of Physical and Mathematical Sciences; V.S. Mil'yanchuk
Glaberman, Doctor of Physical and Mathematical Sciences;
Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in
the field of spectroscopy, as well as for technical personnel
using spectrum analysis in various industries.

CONTENTS: This volume contains 177 scientific and technical studies
of atomic spectroscopy presented at the 10th All-Union Confer-
ence on Spectroscopy in 1956. The studies were carried out by
members of scientific and technical institutes and include
extensive bibliographies of Soviet and other sources. The
studies cover many phases of spectroscopy: spectra of rare earths,
electromagnetic radiation, physicochemical methods for controlling
uranium production, physics and technology of gas discharge,
optics and spectroscopy, anomalous dispersion in metalloids,
spectroscopy of the conduction theory, spectroscopy of ores
and minerals, photophysical and quantitative spectroscopy,
analysis of metals and alloys, spectral determination of the
hydrogen content of metals by means of isotopes, tables and
atlases of spectral lines, spark spectrographic analysis,
statistical study of variation in the parameters of calibration
curves, determination of traces of metals, spectrum analysis in
metallurgy, thermochemistry in metallurgy, and principles and
practice of spectrochemical analysis.

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SOV/1700

Shvarts, D.M., and V.V. Portnova. Spectrum Analysis of Lead of

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Phase Content of Aluminum in Steel 497

Rusanov, L.D., R.B. Rakhman, and A.M. Borbat. Time Relay for

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Vredenskiy, L.Ye., and V.I. Shekhalova. Use of an A-C Arc

Between the Carbon Electrode and Molten Metal for Determining

the Content of Minor Mixtures 504

Sasovskaya, I.I., G.P. Skomyskaya, and T.P. Chukina. Effect of

Temperature on the Optical Properties of Silver Alloys 505

Blaine, E.L., and L.G. Mashireva. Determination of Barium in

Oil With Additives 507

Bykova, T.V., and B.M. Yakovlev. Spectrum Analysis of Electro-

lyte Baths for Acid Electrolytic Tin and Nickel Plating 510

Card 28/31

SOV/81-59-16-56927

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, pp 137-138

AUTHORS: Skornyakov, G.P., Motova, Z.A., Chukina, T.P., Romashenko, A.R., Novgorodtseva, A.T.

TITLE: The Spectral Analysis of Cobalt Oxide for Admixtures

PERIODICAL: V sb.: Materialy 1-go Ural'skogo soveshchaniya po spektroskopii, 1956. Sverdlovsk, Metallurgizdat, 1958, pp 62-63

ABSTRACT: The sample is placed into the opening of a carbon electrode 2 mm deep and 1.5 mm in diameter, the butt of which is sharpened to a cone (walls 1 mm); the upper electrode is rounded off to a truncated cone. The spectra are excited in an a-c arc discharge at 7 a with a burning of 30 sec and an exposure of 90 sec and are photographed with a big spectrograph. The determinable concentration for Ni and Fe is 0.1 - 1.0%, for Cu and Mn 0.01 - 0.4%. The analytic lines are (in A): Ni 3099.1-Co 3054.7, Fe 2719.0-Co 2719.5, Mn 2801.0-Co 2803.7, Cu 2997.3-Co 3048.1. The standards are prepared from oxides obtained by the calcination of salts.

G. Kibisov.

Card 1/1

SASOVSKAYA, I.I.; SKORNYAKOV, G.P.; CHUKINA, T.P.

Effect of temperature on the optical properties of silver
alloys. Fiz.sbor. no.4:505-507 '58. (MIRA 12:5)

1. Institut fiziki metallov Ural'skogo filiala AN SSSR.
(Silver alloys--Optical properties)

SOV/126-6-3-25/32

AUTHOR: Skornyyakov, G. P.

TITLE: The Determination of Equilibrium Diagram Types for Alloys by Spectral Analysis (K voprosu ob opredelenii tipa diagramm ravnovesiya splavov metodom spektral'nogo analiza)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 3, pp 564-565 (USSR)

ABSTRACT: Palatnik's original proposal of the spectral analysis method as applied to vapours over metals, in which selective evaporation is utilized (see article by Palatnik et alii in this issue) is criticised on the grounds that Eqs.(3) and (4) are assumed to be correct for sparks lasting 10^{-4} sec, whereas actual sparks show oscillations of periods 10^{-5} to 10^{-6} sec; during this time the diffusion processes essential to Palatnik's mechanism do not have time to operate. Eqs.(3) and (4) are also criticised on the ground that no allowance is made for self-absorption; Palatnik's attempt to dispose of this objection in his article in this issue (by saying that the spark lines show a linear relation of intensity Card 1/2 to concentration) is brushed aside as incorrect.

AUTHORS: Skorniyakov, G. P., Shayevich, A. B. SOV/32-24-10-67/70

TITLE: The Second Ural Conference on Spectroscopy (Vtoroye ural'skoye soveshchaniye po spektroskopii)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1295-1295 (USSR)

ABSTRACT: From April 24 to 25, 1958 the conference mentioned in the title took place at Sverdlovsk. It was called by the komissiya po spektroskopii pri Ural'skom filiale Akademii nauk SSSR (Commission for Spectroscopy of the Ural Branch of the AS USSR) and the Ural'skiy Dom tekhniki (Ural House of Technology). About 180 delegates from 104 industrial enterprises and scientific research institutes of the Sverdlovsk, Chelyabinsk and Perm' economic districts, as well as from Moscow, Leningrad, Tomsk, Krasnoyarsk, Irkutsk, Minsk, Kirov and other cities took part in this conference. 45 lectures were given. The lectures by O. P. Semenova, N. A. Prilezhayeva, G. Ye. Zolotukhin and Yu. M. Aleskovskiy dealt with the problems of spectroscopy in gas explosions. The influence of some factors on the results of the spectral analysis of ores and alloys was dealt with in the lectures by Yu. M. Buravlev, M. G. Mal'tsev, K. I. Taganov

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SOV/32-24-10-67/70

The Second Ural Conference on Spectroscopy

and others. Furthermore, contributions (with the titles given) by Ya. M. Kamenskiy, A. B. Shayevich, M. N. Shtutman from the Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Kombinat), by N. S. Sventitskiy, N. G. Isayev and S. B. Shubina are mentioned. At the final session A. B. Shayevich delivered a report of the above mentioned commission "On the State and the Prospects of Using Spectral Analysis in the National Economy of the Ural", which was followed by a vivid discussion. Among other things a reorganization of the Laboratory for Standard Samples UIChM (laboratoriya standartnykh obraztsov UIChM) at the Institute for Standard Samples and Spectral Standards (Institut standartnykh obraztsov i spektral'nykh etalonov) was demanded, to increase the output of standards.

Card 2/2

PHASE I BOOK EXPLOITATION

SOV/4959

Ural'skoye soveshchaniye po spektroskopii

Materialy 2 Ural'skogo soveshchaniya po spektroskopii, Sverdlovsk, 1958 g. (Materials of the Second Urals Conference on Spectroscopy, Held in Sverdlovsk, 1958) Sverdlovsk, Metallurgizdat, 1959. 206 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Ural'skiy filial Akademii nauk SSSR. Komissiya po spektroskopii i Ural'skiy dom tekhniki VNTSO.

Eds.: Leon Borisovich Zhayevich and Gennadiy Pavlovich Shornogov; Tech. Ill.: V. M. Kuznetsov.

PURPOSE: This collection of articles is intended for spectral analysis laboratory workers at ferrous and nonferrous metallurgical plants, and for laboratory personnel of the metal-working industry, geological and prospecting organizations, and similar scientific research laboratories.

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slags, ores, agglomerates, refractories and other materials used in industry. The material of the conference includes articles on the analysis

SOV/120-59-4-42/50

AUTHORS: Skornyakov, G. P., Kirillova, M. M.

TITLE: Measurement of the Reflection Coefficient of Metals by Means of an SF-4 Spectrophotometer

PERIODICAL: Pribery i tekhnika eksperimenta, 1959, Nr 4, p 150 (USSR)

ABSTRACT: The optical system of an SF-4 spectrophotometer can be used unaltered for measurement of the reflection coefficient of opaque objects. For this purpose the samples are in the form of mirrors, arranged as shown in Fig 1. The samples (mirrors) 2 and 3 may be identical or different. For identical samples the value of the reflection coefficient R is a mean for both mirrors. In the general case it is given by:

$$R = \sqrt{I_2/I_1} \quad ,$$

where I_1 is the spectrophotometer reading for the primary beam, I_2 is the reading for a beam reflected at the mirrors 2 and 3. Since the optical path is increased in the system shown in Fig 1 (where 1 is the spectrophotometer exit slit), it is necessary to limit the light-beam cross-section with a diaphragm, 5, so that the whole of

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SOV/120-59-4-42/50

Measurement of the Reflection Coefficient of Metals by Means of
an SF-4 Spectrophotometer

the light beam enters the window of a photo-element 4 .
To ensure that the samples are always placed in the same
positions, it is necessary to use a device which fixes their
positions with respect to one another and with respect to
the light-beam. The results obtained by this method agree
well with the published data. Scatter of repeated measure-
ments did not exceed 1%. The advantage of reflection mea-
surements using two mirrors lies in the use of small angles
of incidence, i.e. they may be regarded as the reflectivity
of the metal. Note: This is a complete translation. There
is 1 figure.

ASSOCIATION: Institut fiziki metallov Ural'skogo filiala AN SSSR
(Institute for Metal Physics, Ural Branch of the Academy of
Sciences, USSR)

SUBMITTED: May 12, 1958.

Card 2/2

8(2)

AUTHORS:

Skornyakov, G. P., Candidate of Physical
and Mathematical Sciences,
Skripnik, G. D.

SOV/119-59-5-14/22

TITLE:

A Simplified Wiring for the Photoelectrooptic Amplification of
Direct Currents (Uproshchennaya skhema fotoelektroopticheskogo
usileniya postoyannykh tokov)

PERIODICAL:

Priborostroyeniye, 1959, Nr 5, p 27 (USSR)

ABSTRACT:

The principle of a photoelectrooptic amplifier facilitates, in some cases, a reliable solution to the problem of amplification of direct currents. But the difficulties in the production of such a device (even in case of simplified variants) require a search for simpler solutions. In laboratory practice in the measurement of weak currents by means of a reflecting galvanometer (if no distinct deflection on the scale can be attained), the indirect amplification of currents can be achieved as follows: a photoelectric cell is suspended over the reading scale; a graduation line is drawn through the middle of its photosensitive surface. By the graduation line, the photoelectric layer possesses two isolated ranges which can be regarded as independent photoelectric cells with a common mass. In

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A Simplified Wiring for the Photoelectrooptic Amplification SOV/119-59-5-14/22
of Direct Currents

plotting the graduation line, e.g. by means of a needle, the amplification must be very weak. The results of this operation are checked by means of an ohmmeter. The authors report then in short on the examination of the isolation of the photosensitive layers from each other, and on the most convenient attachment of the photoelectric cell. The stability of work of this wiring depends on the stability of feeding of the illuminator of the galvanometer. By use of this wiring, the possibilities for the measurement of weak direct currents without application of electronic amplifying devices can be extended. There is 1 figure.

Card 2/2

SOV/51-6-2-24/39

AUTHORS: Skorniyakov, G.P. and Kirillova, M.M.

TITLE: Application of Kravets's Method in Determination of the Optical Constants of Metals (Primeneniye metoda Kravtsa dlya opredeleniya opticheskikh kharakteristik metallov)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 2, pp 248-249 (USSR)

ABSTRACT: Kravets et al. (Refs 1-3) described a method of measuring optical constants by using normal incidence in mirror reflection of the studied substance deposited in the form of a wedge on transparent bases with different refractive indices. The present paper describes an application of Kravets's method to determination of the optical constants of metals. A polished metal sample was immersed in a bath filled with a liquid. The sample was placed in such a way that the layer of liquid above it was wedge-shaped. Reflection was measured in two different liquids at angles close to the angle of normal incidence. The arrangement is shown in a figure on p 248, where 1 is the exit slit of a monochromator UM-2, 2 is a lens, 3 is a bath with the sample and 4 is a photoelement. The liquids used were methyl, alcohol, benzene and toluene. To calculate the absolute values of the reflection coefficients of the metal R_1 and R_2 in liquids No. 1 and No. 2 the

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SOV/51-6-2-24/39

Application of Kravts's Method in Determination of the Optical Constants of Metals

authors used the expressions given by Eqs (1) and (2), which include corrections for reflection at the air-liquid and liquid-air boundaries. In Eqs (1) and (2) n_1 and n_2 are the refractive indices of the two liquids; J_1 and J_2 are readings of a galvanometer (connected to the photoelement) obtained on reflection from the metal sample in air and in a liquid, respectively; R_0 is the reflectivity of the metal in air. The refractive and absorption indices (n and k) of the metal are given by Eqs (3) and (4). Using the technique just described the authors measured the optical constants of nickel, cobalt, copper, silver and aluminium (the latter in the form of a film). The results are given in a table on p 249. The error in measurements of n and k did not exceed 5-9%. The values obtained were found to agree with those reported earlier (Refs 5-7). The method described may also be used in the ultraviolet and infrared regions of the spectrum. There are 1 figure, 1 table and 7 references, 4 of which are Soviet, 1 German, 1 English and 1 translation from German into Russian.

SUBMITTED: July 8, 1958

Card 2/2

SOV/51-7-2-17/34

AUTHORS: Skorniyakov, G.P. and Sasovskaya, I.I.

TITLE: On the Effect of the Angle of Incidence of Light in the Observation of the Ultraviolet Reflection Minimum of Silver (O roli ugla padeniya sveta pri nablyudenii ul'trafioletovogo minimuma otrazheniya serebra)

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 2, pp 249-250 (USSR)

ABSTRACT: The authors' results are shown in a figure on p 249, where the reflection coefficient R (in %) of silver is plotted against wavelength (in Å); curves 1, 2 and 3 represent respectively the following angles of incidence: 65, 45 and 25°. It is seen that with increase of the angle of incidence the reflection minimum is gradually displaced towards short wavelengths and the value of R throughout the region rises. This displacement of the reflection minimum is ascribed to the participation in the process of reflection of layers with different defect densities. Since the defect density rises towards the silver layer surface, the greatest displacement of the reflection minimum is observed in the case of large angles of incidence because then the path of the light wave in the surface layer is longest. Acknowledgment is made to A.V. Sokolov for his advice. There are 1 figure and 6 references, 3 of which are Soviet, 1 English and 2 German.

Card 1/1

SUBMITTED: November 26, 1958

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67718

SOV/126-7-3-14/44

AUTHORS: Skornyakov, G. P. and Yefremova, E. A.

TITLE: Temporary Changes in the Coefficient of Light Reflection of Mechanically Polished Metals (Vremennyye izmeneniya koeffitsiyenta otrazheniya sveta mekhanicheski polirovannykh metallov)

PERIODICAL: Fizika metallov i metallovedeniye, Vol 7, Nr 3, pp 395-399 (USSR) 1959

ABSTRACT: This report gives data on temporary changes in the reflectivity of the mechanically polished metals Fe, Ni, Co and Cu. The coefficient of light reflection and the angle of rotation of the polarization plane in the magnetic optical Kerr effect have been chosen as the optical parameters to be measured. ~~Electrographic observations~~ and microhardness tests were carried out for detecting temporary changes in the structure of the surface layer. Measurement of the absolute coefficient of reflectivity of the metals was carried out by a method described in Ref.5, using a photoelectric method for registering the light intensity. Nickel specimens were made from electrolytic metal which was re-melted

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67718

SOV/126-7-3-14/44

Temporary Changes in the Coefficient of Light Reflection of Mechanically Polished Metals

in a vacuum furnace. Cobalt specimens were cut out from plates of electrolytic cobalt in the original state. Copper specimens were made from electrolytic bars. From each metal two specimens, 25 x 20 x 2.5 mm, were made. Fe, Ni and Co specimens were annealed in vacuum at 1000°C for 1.5 hours and subsequently slowly furnace cooled. No heat treatment was applied to Cu specimens. The specimens were ground by hand on glass with GOI paste (10 μ). Polishing was carried out also by hand on a clothwheel with a thin layer of GOI paste and benzene. The polished specimens were washed with alcohol and immediately placed in a measuring machine. Nickel specimens were given an electrolytic polish as well as mechanical polishing. The tests showed that the coefficient of light reflectivity R changes noticeably only for copper. In the course of 24 hours the value of R dropped by 1 - 1.5%, the greatest change having taken place in the course of the first 2 or 3 hours after polishing. The coefficients of light reflectivity for Ni, Co and Fe remained constant within the limits of experimental error. Further similar observations were carried out with a green light filter, and the

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duration of the experiments was extended up to 5 - 7 days (see Fig.1). In the last experiments electronograms were taken of all specimens after mechanical polishing and at the end of the tests. In the electronograms obtained immediately after polishing (see Figs.2 and 3) two diffusion haloes are visible, which are associated with a mechanically deformed surface having a Beilby layer structure (Ref.6). The nature of the diffraction picture finally (7 days after polishing) changed only for Cu: the haloes disappeared and diffraction rings, which are usually characteristic of a polycrystalline structure, appeared (see Fig.4). The diffraction pictures for specimens of Ni (Fig.5), Co and Fe remained practically unaltered. Experiments were also carried out on Ni specimens on the gradual removal, by electro-polishing, of the layer formed in mechanical polishing, and on the measurement of R in the separate stages of electro-polishing. The result of these experiments is shown in Fig.6. Microhardness tests were carried out within a time of 17 hours on Ni specimens

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microhardness of mechanically polished Ni remains constant within the limits of experimental error in the above time interval. Sokolov (Ref.9) has expressed the assumption that the condition of the mirror surface must exert an influence on the extent of rotation in the Kerr effect. In connection with this the authors carried out measurement of the angle of rotation of the polarization plane for mechanically polished and electro-polished Ni. In the mechanical polishing the direction of polishing in relation to the polarization plane of the incident light was also changed. The specimen in the shape of plates was placed between the poles of an electromagnet. A mercury lamp with a dark blue light filter served as the source of light. The position of the polarization plane of the light was determined with the help of a half-shaded polarization apparatus with an accuracy of up to $\pm 0.02^\circ$. A two-fold effect was observed when the direction of the magnetic field was reversed. Experiment showed that there is no difference in the angle of rotation between mechanically polished and electro-polished surfaces.

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There are 6 figures, 1 table and 10 references, of which 4 are Soviet, 5 English and 1 Japanese.

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